

## THREE WORD SQUARE CONTESTS (PART 3)

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In the last contest, we had to make up a five-by-five grid of letters and find the most 3-, 4-, and 5-letter words reading across and down. The total number of letters in all the words was the score. So the best grid we could make would have all possible sequences of 3, 4, and 5 letters being words. This grid would be a five-by-five word square encompassing four four-by-four word and nine three-by-three word squares! It would have ten 5-letter words ( $10 \times 5 = 50$  points), twenty 4-letter words ( $20 \times 4 = 80$ ), and thirty 3-letter words ( $30 \times 3 = 90$ ), so it would score a grand total of 220 points. We started looking for a square like this.

At first we didn't use the dictionary very much. We just tried to think of good words. We used those words to get a good first entry of about 170 - one we could beat later. Then we started dictionary work. We knew the 220-point square had to use ten "perfect" words (ten 22-point 5-letter words that each contained two 4-letter words and three 3-letter words, like spark-spar-park-spar-par-ark). So we decided to make a list of all the perfect words in Webster's Third. Then all we'd have to do would be to use words on the list in a word square and we'd have our 220-point grid.

Just like in the first contest, we could take shortcuts to keep from checking all the 5-letter words in the dictionary. We didn't look on any pages where the first three or four letters of the entries weren't also words. We looked for perfect words like this: we found a 3-letter word and skipped to the first 4-letter word beginning with those three letters. Then we wrote down all the 5-letter words beginning with those four letters. We went to the next 4-letter word beginning with the current 3-letter word and wrote down all the 5-letter words beginning with those four letters. Eventually, we skipped to the next 3-letter word. We kept doing this until there were enough 5-letter words written down to stop and check. Then we checked the last four letters and the middle and last three letters of each 5-letter word to see if they were words, and we crossed off all the 5-letter words that didn't turn out perfect (before we started, we made a list of all the 3-letter words in the dictionary to save time). It took us weeks, but we continued this until we finished the list of perfect words. It had less than 600 words.

Next, we had to make a word square using words on the list. After trying at random and not doing too well, we decided to use the same method that we had in the first contest. We tried using

each perfect word as the bottom word and proving it couldn't go there in a finished square. Eventually, we would either find a word square using words on the list or run out of possible bottom words (and know it wasn't possible to find a perfect square). We picked the bottom position instead of some other one because most of the perfect words ended in the same letter, S. Many of the ones that didn't ended in ED. Solea was the only word we found ending in A, carab in B, whoof in F, and amani in I. Two words, crump and whoop, ended in P. None at all ended in C, G, J, M, O, Q, U, V, W, X or Z. So we started eliminating words from the list of possible bottom words by crossing off all the words containing one or more of these eleven letters. Next, we tried words containing an A, B, F, I, or P; most of these words were easy to eliminate. For example, we quickly eliminated dashy. With dashy as the bottom word, solea would have to be the second word going down. Then the first word across would have the S of solea as its second letter. The only words on the list like this began with US. But the first word going down had to end in D, and there were no words beginning with U and ending in D on the list.

C	A	P	E	S	Not all the words were as easy as dashy to
A	W	A	R	E	eliminate. Heres and seres were very difficult.
P	A	L	A	R	We finally did eliminate all the possible bottom
E	R	A	S	E	words and decided a 220-point square just wasn't
S	E	R	E	S	possible. We settled for the 206-point square

at the left that we found while doodling with the near-perfect words aware and erase. The only letters that didn't make words were ASE and AWAR. Just in case the judges didn't allow us to count any word more than once (the rules didn't say anything about this), we also had a 195-point entry (given at the left). The only letters that didn't make words were NSESS, NSES, NSE, SES, NAS and ALAT. Amê and amès were found under amê damnée. Is's was the possessive of the noun is, tas was the plural of ta, and ris was the plural of ri, a variant of rig. Ala was in the grid twice, but we only counted it once.

Since we still had time left before the deadline, we tried to beat 206 by finding more near-perfect words. While we were looking, we found anana. It was a boldface entry hidden in the definition of ananas, a genus of plants, meaning 'pineapple'. Finding that word won us the contest. Anana was a perfect word (we had missed it in our earlier search of the dictionary), and it was easy to use in the grid. We fiddled with it and soon found the perfect 220-point square given at the left: every sequence of three, four and five letters formed a legitimate word!

D	A	M	A	N
A	N	A	N	A
M	A	L	A	R
A	N	A	N	A
N	A	R	A	S

Finally we could rest. We were so tired of reading Webster's Third that we gladly took it back to our school's library, and

closed it with a thump. But we didn't forget how picky the judges had been on the first two contests. We remembered to send in several entries in case some were disqualified. We sent in our 220-pointer, our 206-pointer (not using any word more than once in the same direction), our 195-pointer (not counting any word more than once in either direction), and lower-scoring grids that didn't reuse any words or use any words that might possibly be judged as foreign, proper, or abbreviations. We also sent the judges a note. We told them that the dictionary editors said there were no foreign words in Webster's Third and that the label "usu cap" didn't always mean "proper." And we reminded them that the rules didn't say not to reuse words (the rules for the previous two contests did say that).

The judges accepted our 220-point entry and named us overall winners in their series of contests. Our prizes for the second and third contests were J.C.Penney gift certificates which we used for new bicycles. In the first contest we had won stuffed animals.

Today we remember the contests and all the fun and frustrating hours we spent with our heads buried in the dictionary's fine print. We've decided that from now on we'd rather read contest results than make them. So we've vowed not to enter another dictionary contest until we turn on the TV and see conversationists discussing the featherlessness of pineapples'

## CROSSWORD COMPETITIONS

*Word Ways* does not ordinarily review books of crossword puzzles. However, *Will Shortz's World Class Championship Crosswords* (Simon and Schuster, 1982; \$6.95 in paperback) is a crossword puzzle book with a difference: it contains a fourteen-page preface on the history of crossword puzzle competitions, and then invites the reader to try his hand at beating the times achieved by winning contestants on 50 championship puzzles from 1924 to 1982. I know of no one who can write with more authority on this subject than Will Shortz, who has worked both sides of the aisle. In 1979 he won a crossword marathon in nine and one half hours using the resources of an Ohio bookstore (if you want to try this puzzle, it's Number 35). Since 1978 he has directed three different annual crossword competitions: the Annual American Crossword Puzzle Tournament, the Grossinger's Crossword Weekend Tournament, and the U.S. Open Crossword Puzzle Championship.